COST-BENEFIT ANALYSIS OF FEDERAL REGULATIONS ON COTTON TEXTILES

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COST-BENEFIT ANALYSIS OF FEDERAL

REGULATIONS ON COTTON TEXTILES

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TO MY PARENTS

WITH LOVE AND GRATITUDE

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SUMMARY

A systematic economic analysis on the effectiveness of federal regulations for cotton and cotton textiles has been attempted in this study. The main objective has been to examine the impact on production of cotton and consumption of cotton textiles under the regulations. Costs to government for price support, loans, storage and Research and development under the act have been estimated. Benefits to the consumer in form of availability and price of textile products have been estimated and quantified into real dollar values. Three of the most recent federal regulations i.e. the 1964, 1965, and 1973 acts have been reviewed and all associated costs and benefits have been identified. Certain intangible and incommensurable effects have been identified but not accounted for in real dollars as they defy any form of measurements. The ratio of benefits to the consumer and costs to the government reflect the effectiveness of the regulation and to what extent it has been beneficial to the consumer in terms of the dollars spent by the government. Each of these acts were different, and they cannot be compared with each other. On reviewing each of them individually their merits and demerits reflect the effectiveness of governments action in being beneficial to the consumers. The 1964 Act had a low B-C ratio indicating higher government expenditure than the potential benefits derived. The B-C ratio for the 1965 Act indicates the minimum justification for the costs incurred by the government.

The 1973 Act when viewed under prevailing economic situation indicates that the government did take the best possible measures to benefit the cotton industry and cotton consumers.

CHAPTER I

INTRODUCTION

General

King Cotton is the popular personification of the great fiber crop of first the South and later Southwest and West. Cotton faces keen competition from other fibers today, and tomorrow it may no longer be King Cotton. However, one cannot question cotton's importance nor its influence on the economic and political life of the nation, for we have only to look at government's commitments to cotton producers, to exporters, and to users to realize the tremendous scope of these activities, all involved with tax-supported dollars.

The cotton fiber - textile - apparel complex is comprised of a comprehensive variety of establishments between cotton farms and the U.S. consumer (Figure 1). The industry encompasses several kindered industries including almost half a million U.S. cotton producing farms which supply cotton to thousands of textile firms, ranging from spinning and weaving mills to padding and upholstery concerns. Other significant industries include the many apparel and household goods manufacturers which provide products for such retail outlets as department and furniture stores and speciality shops.

Although use has been slipping in recent years, cotton is still a major fiber. In 1964, consumers purchased the equivalent of 22.6 pounds of cotton each in the form of apparel, household, and industrial

products, while the 1975 consumption of cotton per capita was 15.4 pounds. Furthermore, a substantial share of cotton and cotton products produced in this country flowed to consumers in foreign countries.

Significant structural changes have occurred in the Cotton industry in recent decades. The number of farms producing cotton has been declining, while average farm size has been increasing. Technological advances, such as increased mechanisation and use of fertilizer, have been important. Moreover, development of new fibers and continually changing consumer preferences have been instrumental in many changes. Of particular significance is the increasing use of man-made fibers. These fibers have cut into many of cotton's traditional markets, causing major shifts in both the demand for cotton products and the derived demand for raw cotton. Man made fiber-cotton blends, in particular, have cut into formerly 100% cotton markets. However, despite the tremendous increase in man-made fiber demand during recent years, cotton still holds about one third of the domestic fiber markets, and on the international scene, although cotton's relative position is declining, the U.S. remains the world's largest consumer as well as the leading exporter of raw cotton.

The U.S. cotton industry consumes raw cotton produced primarily in the South, mid-West, and West, spins and weaves it into cloth in textile mills mainly in the Southeast, and manufactures cotton products in plants predominantly in the Northeast. This geographic organization is somewhat different from that of several decades ago as cotton production has tended to move Westward and numerous textile mills have moved from New England to the South. Although most apparel and household

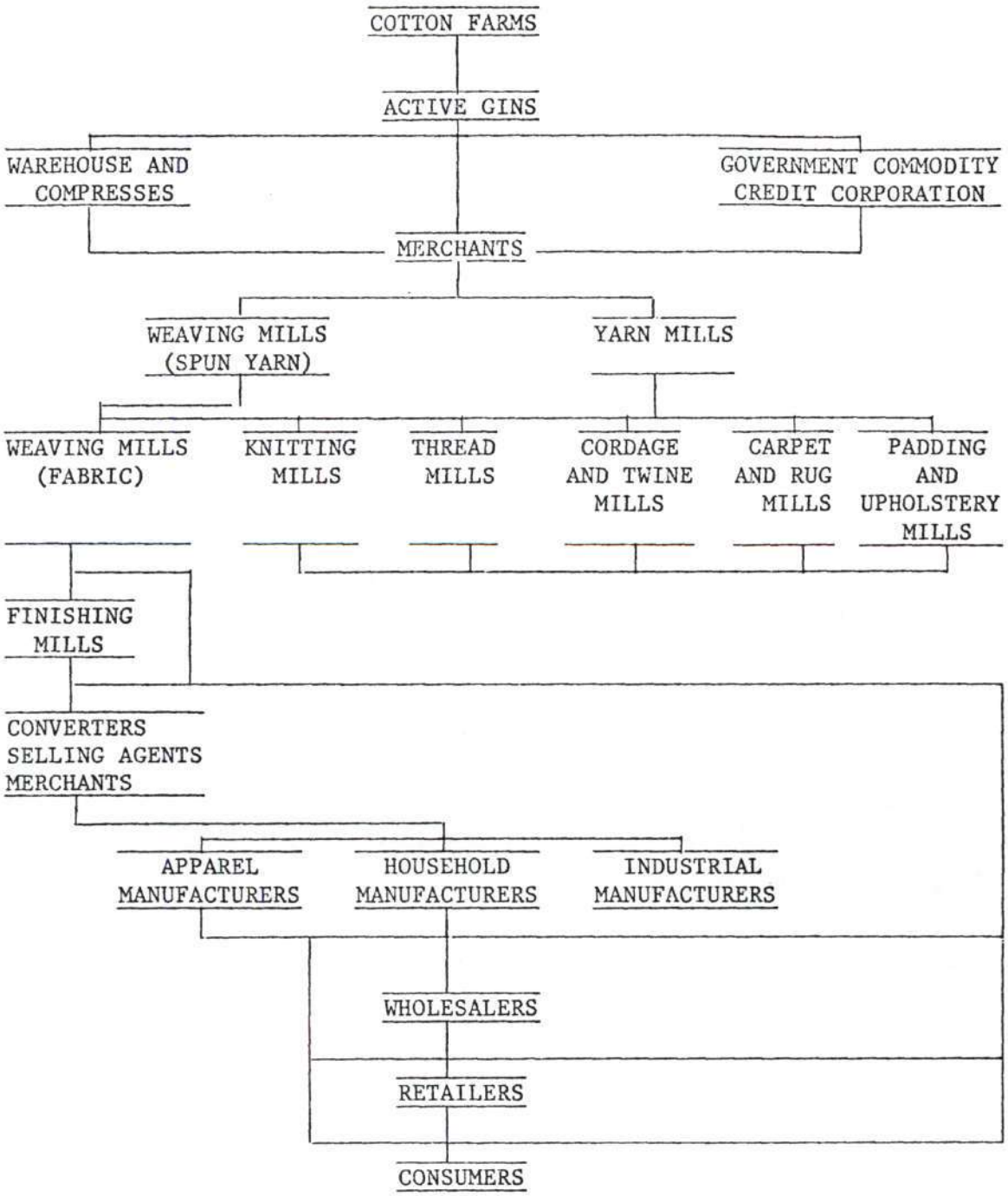

Figure 1. Cotton Industry Flow Chart

manufacturing remain in the Northeast, primarily New York, many plants are moving closer to their raw material sources in the Southeast, principally in the Carolinas and Georgia. In addition to the advantages of proximity to weaving mills, the Southeast has a favorable tax structure and more abundant labor.

Government Programs

For over forty years,[10] price support and adjustment programs have had an important impact upon the farm and national economies. Consumers have consistently had a reliable supply of farm products for a smaller proportion of their income than anywhere else in the world. Farmers have been assured of at least specified minimum prices for their products. The legislation and resulting programs have been modified to meet varying conditions of depression, war, and prosperity, and have sought to give farmers, in general, the opportunity to attain economic equality with other segments of the economy.

Government programs[6] have had a significant impact on Cotton supplies and demand in the last decade. Programs begun in the mid 1960's -- The Agriculture Act of 1964, The Food and Agriculture Act of 1965, and The Cotton Research and Promotion Act of 1965 -- were particularly significant. The Agriculture Act of 1970, three-year program, discontinued the use of acreage allotments and marketing quotas for upland cotton. The Agriculture and Consumer Protection Act of 1973 placed its emphasis on production to respond to ever growing world-wide demand for food and fiber. The fundamental difference was its emphasis on maintaining or increasing production in contrast to earlier programs to curtail production.

Cotton Production, Supply, and Demand

The domestic cotton supply [7] is determined primarily by the level of production and the quantity of cotton carried over from the preceding years (Figure 2). During the past two decades the supply of cotton has fluctuated between 16 and 30 million bales. Peak supplies occured in 1956 and in 1965 due largely to carryover of unsold cotton from previous years. Under the impact of programs in the 1960's, supplies declined sharply, falling to about 15 million bales for the 1969/70 year mainly due to reduced output. This amount was the smallest supply since World War II affected level of 14 1/2 million bales in 1947. With the exception of the last few years, cotton production in the United States has followed no particular trend during the past two decades. From 1950 to 1965, production averaged about 14 million bales, ranging between 10 and 17 million bales. Beginning with 1966, however production has averaged about 9 1/2 million bales, primarily reflecting adverse weather and the effect of 1965 Food and Agriculture Act which was designed, in part, to work off surplus cotton stocks.

Demand for U.S. cotton by domestic and foreign mills has fallen in recent years. Consumption (Figure 3) of cotton by U.S. mills declined from 10 1/2 million bales in 1950 to about 7 million bales in 1975/76. The downward trend was moderated by a growing population and rising consumer incomes. But intensified competition from man-made fibers and larger textile imports of both cotton and man-made fibers made inroads in markets for cotton goods. Use of cotton in recent years also has been limited by larger imports of cotton and manmade fiber Textiles. Cotton textile imports increased from the equivalent of less than 0.1

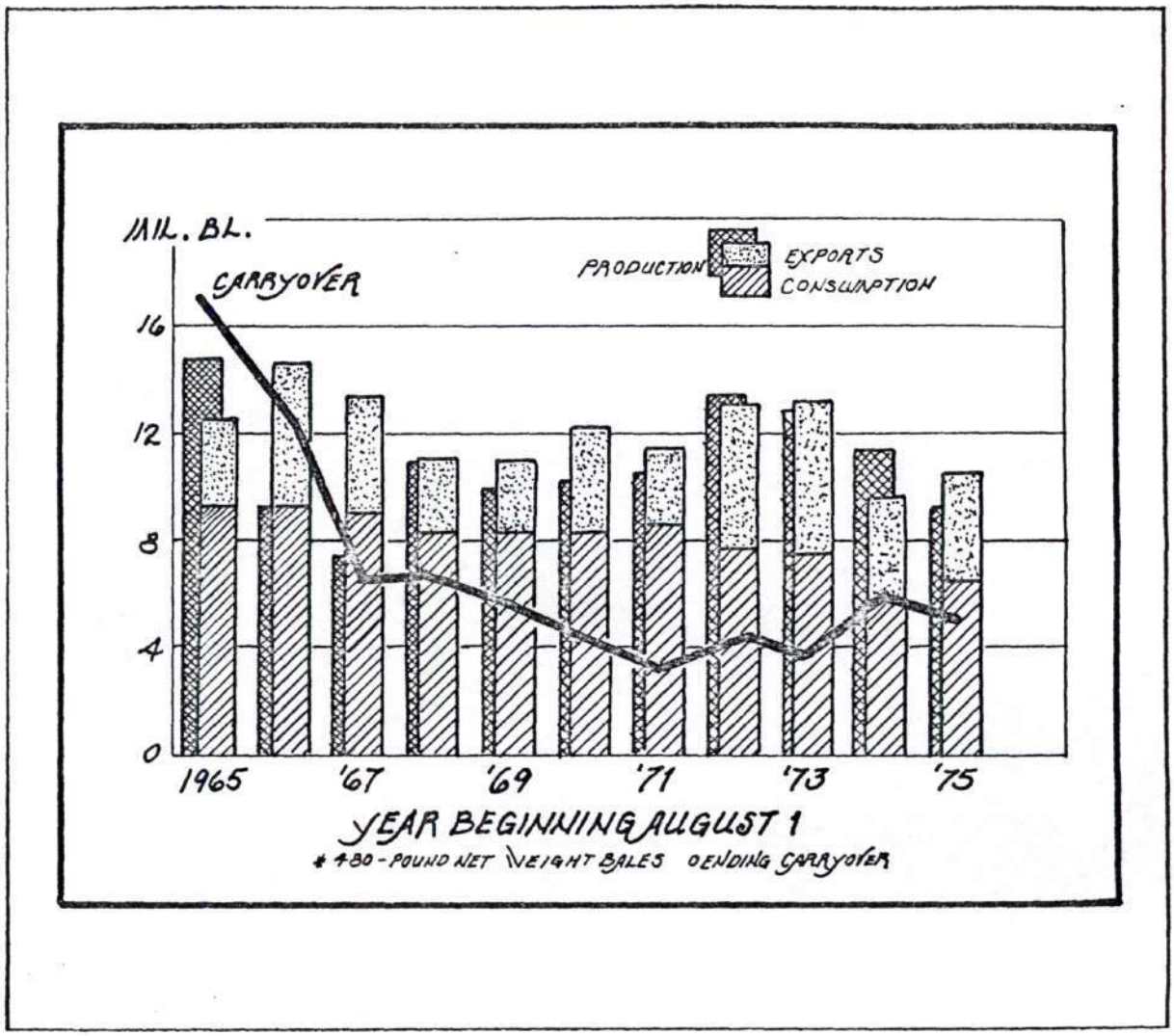

Figure 2. Cotton Production, Use, and Carryover

million bales in 1950 to an average of around 4 million bales in recent years. Cotton textile imports increased during this period even though the Long Term Textile Agreement had been in effect since 1962. Under the agreement, cotton textile imports could be restricted by the United States when domestic markets are threatened or subjected to disruption. However, certain provisions of the agreement, such as a 5% growth factor, provide for larger imports.

Cotton is ultimately consumed in the form of apparel, household and industrial products. The consumption pattern, has reversed. Cotton consumption was about 62% of total fiber consumption in 1964 and only about 30% in 1975. The consumption of cotton in terms of market share, product category and type of apparel has undergone major changes since 1964. Cottons share of the total domestic market declined from 46% in 1964 to 29% in 1974. Cottons share declined in each major product category. The smallest decline was in industrial product category.

The 1975/76 Cotton marketing season has been highlighted by a decrease in stocks, primarily reflecting the small 8.3 million bale crop. Prices received by farmers have improved in relation to parity over the past year. Expanding use of all-cotton denim and corduroy coupled with larger cotton consumption in blends with man-made fibers emphasize this season's broad based recovery in cottons use. Still, cotton continues to face intense competition from man-made fibers which are not under the same supply and price pressures.

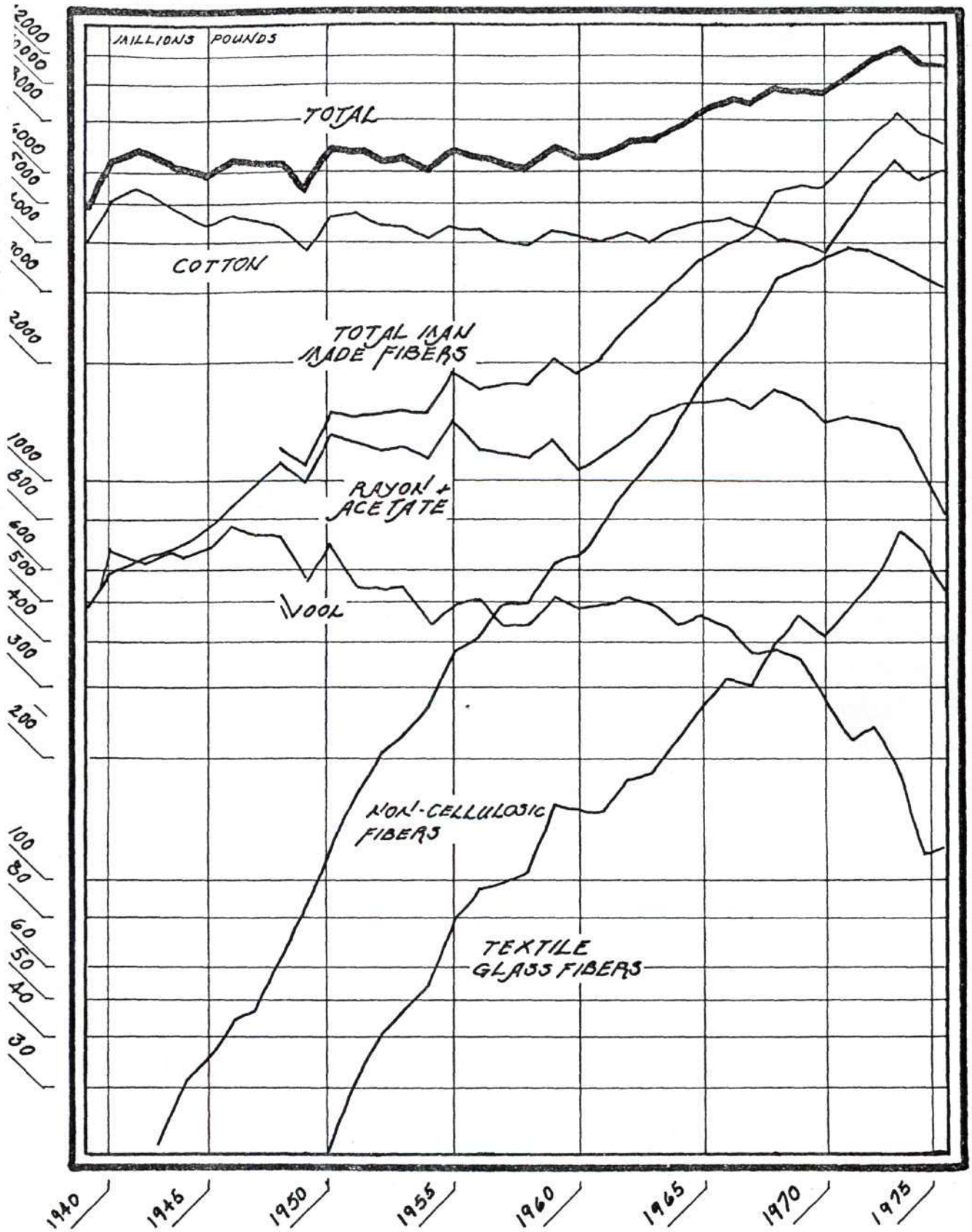

Figure 3. U.S. Mill Consumption

CHAPTER II

FEDERAL REGULATIONS

Background and Impacts

Programs [10] of the U.S. Department of Agriculture (U.S.D.A.) particularly those concerned with supporting the prices of farm products and encouraging farmers to adjust production to demand, are the result of a series of interrelated laws passed by Congress from 1933 to 1975. The stock market crash of 1929 and the great depression that followed were accompanied by a severe drop in the farm price of cotton. In the period preceding the depression, the price of cotton had risen considerably to the 20 cents per pound level. Then overnight the price of cotton started to drop, and it dropped radically, with the lowest price reached for middling 7/8" cotton being 4.99 cents per pound in June, 1931. The overall effect on the textile industry of this incredible drop in the price of cotton was lost to some extent in the morass of the depression, but the effect on the producers of cotton was not lost. With so many farmers affected, the government took action to prevent recurrance of such a catastrophe. The purpose of government cotton price support program was to insure orderly marketing of the cotton crop; to spread this support well beyond the actual harvesting period; to stabilize the market by preventing extreme fluctuations in the price of cotton; and, lastly and perhaps most importantly, to guarantee the farmers what the government terms a fair return per pound commensurate

with his work.

The base support level [6] is set at a certain percentage of what is termed the parity price of cotton. The parity index, used to determine parity price, is the ratio of the relative level of purchasing power of farmers today as compared to the 1910-1914 span of years. This index places much importance on the prices for feed, farm machinery, building materials, fertilizers and other business needs of the farmers, with less importance on food, clothing and household goods. A total of 389 items is used to determine the parity level. The parity price has been used by the U.S.D.A. to determine loan value of Cotton.

Some economic aspects concerning the marketing of cotton and the welfare of the cotton producer may justify government programs within the framework as they are now established. But, the various agricultural stabilization programs have been subject to criticism because of their costs, because they have failed to control the production of agricultural commodities, and because these programs have become involved with politics. The programs supporting the price of cotton, while being of help and benefit to the cotton farmer, became burdensome and detrimental to the textile industry itself and it is this aspect among others that led to demand for relief.

In the 1930's the government adopted a Cotton farm price support program [6] in an effort to stabilize cotton prices and to help the farmer. As a result of these support prices, the domestic prices of cotton exceeded the world price of cotton; and thus the U.S. started to lose its export market in cotton. This led to the enactment of a law in 1956 which instructed the Cotton Credit Corporation (CCC) to sell cotton

abroad at world competitive prices. This law was the inception of the two-price system, with one price being paid by our domestic industry, and a lower price by foreign mills. The government had also imposed rigid import quotas on both upland and extra long staple types.

The direct result of all these factors was increased importation of textile goods into the U.S., combined with decreased exports. The Agriculture Act of 1964 [7] provided for a two-year program for upland cotton, effective for the 1964-65 crops. From the point of view of the textile manufacturer, the outstanding feature of the new Act was the cotton equalization payment-in-kind program which was established. Payments were intended to maintain and expand domestic consumption of cotton by making cotton more competitive with other fibers by removing the differences in the cost of raw cotton between domestic and foreign users. This Act contained a directive that the Secretary of Agriculture conduct a special cotton research program designed to reduce the cost of producing upland cotton at the earliest practicable date and to consider the cost of producing cotton as one of the several factors to be considered in establishing price support levels for cotton. Implicit in the 1964 legislation was the need to reduce production costs if cotton were to remain a viable, competitive enterprise and maintain an important share of total fiber market. At that time price-depressing surpluses of cotton were being experienced and CCC stocks were growing.

In response to the 1964 legislation, a package program of research [4] was developed by USDA. Its primary objective was to reduce costs of producing cotton. Cost estimates were based on enumerative surveys of cotton producers in the major producing regions. All costs borne by

the producers, direct and indirect were accounted for, in the production of upland cotton. The results showed that the average cotton producer in the U.S. realized a modest return to management from cotton production during 1964/69 survey years. During those years, the average producer in six of the eighteen regions under survey had average total cost levels higher than average receipts per period.

The Agriculture Act of 1970,[10] a three year program, discontinued the use of acreage allotments and marketing quotas for upland cotton. To qualify for price support, the farmer was required to keep specific percentage of his cropland out of production, with this acreage set aside to be put to conserving practices, he could grow whatever he wished to on his remaining land. Payment units were established at an annual ceiling of $55,000 per crop, excluding commodity loans and purchases, for producers of cotton. Under this regulation many small farms dropped out of the cotton program and the average farm acreage planted to cotton increased moderately.

By 1973 the demand [7] for American farm products was at high level due to world crop shortages and world wide inflation. The Agriculture and Consumer Protection Act of 1973 placed its emphasis on production to respond to ever growing world wide demand for food and fiber. A new concept of target prices was introduced which was only to be used when market prices fell below the target levels. Payment rates would be equal to the amount by which market prices fell below target prices. Changes in the index of prices paid for production inputs and changes in the yields would be taken into account in establishing a target price for every two year period. The fundamental difference in

this regulation was its emphasis on maintaining or increasing production in contrast to earlier programs.

CHAPTER III

COST-BENEFIT ANALYSIS

General

Cost-Benefit Analysis (CBA) [13] is a systematic analysis of a project to determine whether and to what extent its social benefits outweight its social costs. In principle, CBA should deal with all costs and benefits of a project, some of these will be quantified and others treated in qualitative fashion. CBA attempts to assess the magnitude of all costs and benefits and their value. Through the process of valuation, an attempt is made to determine, as far as possible, whether the overall effect of the proposed regulation is socially favorable or not.

The cotton industry can be viewed as a complex network of smaller industries, each playing a vital role in production of textile goods. The effects of federal regulations would be first feld at the input section, i.e., by the cotton producer and as a result the impact of these effects would be felt at the output section, i.e. by the consumer in the form of availability and costs.

Costs of federal regulations include the costs to government for loans, price support, storage, research and development. They also include the costs of resources employed in developing and monitoring the regulations. In addition, there are indirect costs associated with the regulations which are more difficult to quantify. Benefits of

federal regulations to the consumers would be in the form of availability and price of textile products. Dollar values of consumption would reflect the effectiveness of the regulation in providing social benefits to the consumer.

Certain effects of regulations are incommensurable and intangible. Incommensurable effects are those which are economic in nature and can be quantified in their own dimensions but not readily measured in monetary terms. Examples include recreation, non-renewable resources, and changes in technology. Intangible effects are non-economic in nature and so are not only not measurable in dollars but defy any measurements whatsoever. Examples of intangible effects are politics, some demographic effects, social pressures, individual liberty, aesthetics and social harmony.

In order to carry out a cost-benefit analysis of federal regulations on cotton textiles all relative costs and benefits associated with the regulation will be identified. Some of these costs and benefits necessary for calculations will be quantified into real dollar values.

Identifying Costs

Whenever we talk of costs we mean costs to the farmer, costs to the government, costs to the textile industrialist and as a result costs to the consumer.

Costs to the farmer to produce an acre of upland cotton would involve labor costs, cost of materials, power and equipments and other items. Labor is an important item on any farm. The availability of

domestic labor in the required quantity is a problem to many farmers. With the increase in oil prices the costs to the farmer for fertilizer, pesticides and other materials have changed. Petroleum price is another concern to a farmer. He is not in a position to use horses anymore and is overdependent on this fuel for most of farming transportation needs.

A survey [5] of 700 cotton producers by the U.S. Department of Agriculture (U.S.D.A.) in 1974 determined that production costs per acre vary widely among the regions. Direct costs totaled $76 in the Rolling Plains of Texas and Oklahoma, compared with nearly $300 in the San Joaquin Valley of California. Depending on land allocation selected, total costs ranged from about $105 per acre in the Rolling Plains to $420 per acre in the San Joaquin Valley. In terms of costs per pound of lint, the relatively high costs per acre in the California and Arizona subregions were offset by higher yields, resulting in comparatively lower costs per pound of lint in 1974. Unit costs in Texas Rolling Plains and High Plains were high in 1974 because of drought, and resulting low yield in the Mississippi Delta also resulted in relatively high costs per pound in 1974. Although costs tend to vary widely from year to year, the Brown Loam, Mississippi Delta, Rolling Plains and High Plains subregions have generally ranked among the lowest unit costs subregions as indicated by the previous belt wide surveys of the U.S.D.A. In another survey [4] conducted by the U.S.D.A., the profit or income potential of cotton versus alternate crops were estimated and the final analysis was that cotton had a higher profit margin in each area when compared to income potential from other major

competing crops.

The government introduces regulations or programs, after policy decisions have established program goals and objectives and the planning process has developed means to achieve them. Costs are incurred by The Federal Government for effective execution of the decisions and monitoring the performance to determine whether policy and plans are being carried out effectively. The federal government also advances loans to farmers for participation in the price support programs. The amount of loans depends on the production amount. Production controls and price support programs have been developed over the years for the farm sector to help adjust production to increase effective demand, to prevent over supply, or to do both.

Cotton is a renewable resource that requires only one-fifth as much fossil fuel energy per pound as manmade fibers to produce. A high percentage of cotton is used in apparel, furnishing and industrial uses. Cotton provides more than 2 1/4 billion dollars in farm income to about 200,000 planters in the cotton belt across the nation from the Carolinas to California. Cotton is big business and will continue to grow only if it is supported by continued research. The federal and state governments spent about $20 million on research and development in 1974. This amount is increasing every year, and more scientists are involved in research today than ever before.

Textile industrialists are under tremendous pressure to increase productivity to keep up with the ever rising wage rates; to increase the variety and improve the performance of all textile products -- apparel, household, and industrial; and to protect the environment. These pressures are resulting in changes at all stages of processes.

Changes are coming so fast and are so extensive after the slow rate of change for so long that it is no exaggeration to talk of a revolution in textile technology. In order to meet the demands, the textile industry has to incur costs in new machinery and new testing facilities. Certain government regulations such as OSHA regulations and fire resistant cotton requirements, require the industry and its products to meet certain specific standards before the goods can be produced and sold in market. These requirements tend to increase the cost of the manufactured product with additional monitoring units, processing units and personnel involved.

Consumers are the ultimate clientele. By purchasing the output of the textile industry they create future demand that continues the flow from farm sector onward. Domestic consumer is a major user of the U.S. textile products. As their incomes rise and their numbers grow, American consumers have been expanding their consumption. Consumer demand for fibers depends largely on the level of disposable personal income, the size and age-sex composition of the population, tastes and preferances, and technological developments in textile industry. Textile product performance characteristics, such as comfort, durability and easy care require the industry to develop products to meet the required demand. The industry in turn passes on the costs of product development to the consumer resulting in his spending more for his requirements. Thus, the consumer incur cost to satisfy their personal needs and keep in pace with the changing times.

Identifying Benefits

Benefits in agricultural projects can arise either from increased value of output or from reduced costs. In light of the federal regulations, which became necessary for the farming industry to survive, the benefits derived by the farmer amount to increased value of particular output and also ensure him of future demands. Controlled acreage allotment ensures that the farmers have strong markets at home and overseas which offer attractive prices for cotton. The farmer is ensured a target price that can be adjusted for increased production costs over a time period. Provision of funds for research and development of cotton growing methods and quality improvements benefit the farmer by reducing his costs and increasing his profits.

The main benefit the government derives by implementing the regulations is that of justifying its commitment to serve the people of this country in the best possible way keeping in pace with the fast changing needs of the people and the country.

Benefits to the textile industry would be in the form of availability of quality cotton fibers at reasonable prices and in sufficient quantity in order to be able to meet the demand. Availability of fibers in required quantity ensures high efficiency of operating the textile industry and reasonable prices for its products. Being able to supply consumers with required items ensures the industry of a future demand and survival.

Benefits to the consumer would be in the form of availability of textile products at reasonable prices. Clothing vividly reflects one's values and life style. For most people, clothing satisfies the need to

be warm and comfortable. It can also make them more attractive, help them to feel part of a group, provide social status or prestige, gives them individuality, or satisfies the need for creative self expression. Such needs will not only vary from individual to individual, but some may even be in conflict. Federal programs for cotton variety breeding and development are aimed at making available to the consumer a variety of items in sufficient quantity and reasonable prices within his purchasing power. The consumer benefits by being able to satisfy his needs in accordance with his requirements and changing times. Availability of products with specific end use performance assured satisfies the consumer and by purchasing the product he creates a future demand which ensures that the system continues.

CHAPTER IV

QUANTIFYING COSTS AND BENEFITS

Procedure

The cotton industry comprises of a variety of establishments between cotton farms and the U.S. consumer there are many effects of federal regulations throughout this system which are virtually impossible to measure at each and every stage. The main effects would be as is assumed, at the raw material stage and the final consumption stages. In this study, costs incurred by the government for performance of an act or regulation were those input costs such as loans, price support payments and storage of unsold cotton. Costs for research and development were also added. The value of regulation would be the sum of its value to each member of the society. For regulations at national level the defination of society would be that which consists of all U.S. citizens. Population during each of the years the regulation was in effect was used to find the per capita costs to the government during that particular year. Certain costs for ongoing regulations have not been included in the calculations for each of the acts discussed here. Costs included are mainly concerned with the respective acts. To determine the economic viability of government regulations, costs to government, during those years the regulation was in effect, have been discounted in order that the time stream of costs be reduced to a single number. This number would be the net value of the project before the regulation went into effect. By discounting costs the net present value

of future costs is estimated. The choice of a discount rate is not strictly confined to economic analysis but it is essentially a policy decision. In this study the inflation rate has been taken as a basis for computing the discount rate (Table 7). Two discount rates have been used to project the results. In each case the discount rates chosen were more than the prevailing inflation rate of that particular year.

Demand is defined as the willingness and ability to purchase a commodity or service at a specified price and time. Consumers direct production by the way they allocate their incomes among different goods and services. The demand for cotton fibers is derived from that for finished cotton products. Consumers change their consumption patterns for many different reasons. Economic factors are major and important determinants of demand although their impact is tempered by habitual, technological and institutional rigidities, so that present consumption is also dependent upon past consumption patterns. Measurement of some of these determinants for demand is not possible as they defy any form of measurement. This analysis does not account directly for the activity of the intermediate producing units between mill and retailer or for other factors which are difficult to quantify, such as style trends towards lighter clothing, increased air conditioning and changes in the age-sex distribution of population.

The method used for estimating benefits in this study was 'willingness to pay'. Consumers willingness to buy the textile products available in market at the prevailing market price determines the benefits they (consumers) derive as a result of the regulations. Real dollar

values of consumption were found by multiplying the per capita consumption by the average market price of cotton. The quantity of cotton used for blends in textile products is determined by its price, the relative prices of other fibers, their availability and public demand. The average market price paid for the cotton fiber by the textile industry has a definite bearing on the price of the textile product manufactured.

A direct benefit of a project is simply defined as an increased real value of output associated with the project. The most common direct benefit would be greater physical production, consumption or changes in quality. Indirect benefits reflect the impact of the project on the rest of the economy. The value of project to an individual would be the maximum amount he would be willing to pay for his textile requirements should the regulation be implemented.

An important feature of market goods such as textiles is the existence of a corresponding market price which directly measures social value in money terms of the per capita consumption. The dollar value of cotton consumption reflects the demand and willingness of consumer to buy items for the price it is offered. The consumer demand shows the effectiveness of the regulation and to what extent it is beneficial to the consumer as compared to the dollars spent by the government in implementing it.

Government regulations span a time period, fluctuations in prices and consumption during each year have been accounted for and net overall effect of the benefits and costs generated during those years is found. Three of the most recent federal regulations - the 1964 Act, the 1965 Act and the 1973 Act - have been reviewed in this

study. Each of these regulations were unique and were enacted to meet the prevailing situation during those years. Each act has been briefly described and calculations of costs and benefits for those particular acts were made.

The 1964 Act

The Agricultural Act [6] of 1964 provided for a two year program for upland cotton effective for 1964 and 1965 crops. This law eliminated the two price cotton system, substituting a one-price system. The new law was designed to be of special help to the small producer and actually gave him a higher loan than would have been obtained under previous bills.

From the point of view of the textile manufacturer, the outstanding feature of this act was the cotton equalization payment-in-kind program. Payments were intended to maintain and expand domestic consumption of cotton by making cotton more competitive with other fibers by removing the differences in the prices of raw cotton between domestic and foreign users.

In addition a special research program designed to reduce the cost of producing cotton was launched. An appropriation of not more than $10 million annually was authorized by the federal government.

In order to measure the effectiveness of this act, dollar values for net per capita costs and benefits for this act were calculated as shown in Table I & II.

Table I. Calculations for Benefits, 1964 Act

Year	U.S. per Capita Cotton Consumption lbs.	Market Price of Cotton cents/lb.	Net per Capita Benefits $
1964	22.8	30.73	7.00
1965	24.2	29.60	7.16
		Average	7.08

Table II. Calculations for Costs, 1964 Act

Year	Value of CCC Price Support, Inventories, Loans and R&D. (Million Dollars)	Discounted $s Cost to Govt. (Million Dollars)		Population (Thousands)	Net per Capita Cost to Govt. ($s)	
		Discount Rate 2%	3%		Discount Rate 2%	3%
1964	1761	1725	1708	190,507	9.05	8.96
1965	1908	1831.62	1794.50	192,983	9.49	9.29
				Average	9.27	9.12

The 1965 Act

The Food and Agriculture Act [6] of 1965, in effect for the 1966-70 crop, was a four year program designed to reduce cotton carry-over and stimulate domestic consumption. It does not change the effect of one price cotton system, but it does revise the mechanism by which it, as well as the farm support price system works. This bill though somewhat of an improvement over the previous bills, still left the U.S. as a residual supplier in international markets.

Based upon the 1964 "One-price" Cotton bill, the market price of cotton was supported at 90% of estimated world price levels, thus making payments to mills and export subsidies unnecessary. Incomes of cotton farmers were maintained through payments based on the extent of their participation in allotment program with special provisions for protecting the income of farmers with small cotton allotments. The textile mills would be able to buy cotton in the open market at the prices close to the loan price. The loan rate for the 1966 crop was 21 cents and the prices for 1967, 1968, and 1969 crops were not more than 90% of estimated world price. Most of the annual production was expected to move directly to the markets through normal commercial channels of trade, with the CCC having a substantially reduced role in making loans and merchandising cotton. The new bill meant that CCC could release stock piled cotton from previous years if current demand exceeded current production.

This act was extended through crop year 1970. Dollar values of net per capita costs and benefits were calculated as shown in Table III & IV.

Table III. Calculations for Benefits, 1965 Act

Year	Per Capita Cotton Consumption lbs.	Market Price of Cotton cents/lb.	Net per Capita Benefits $
1966	25.4	22.08	5.60
1967	23.8	24.83	5.90
1968	22.2	22.90	5.08
1969	20.9	22.15	4.63
1970	20.1	23.55	4.73
		Average	5.18

Table IV. Calculations for Costs, 1965 Act

Year	Value of CCC Price Support, Inventories, Loans and R&D. (Million Dollars)	Discounted $s Costs to Govt. (Million Dollars)		Population (Thousands)	Net per Capita Costs ($s)	
		Discount Rate 4%	6%		Discount Rate 4%	6%
1966	2238	2148	2104	195,045	11.01	10.78
1967	1214	1118.40	1072.54	196,976	5.67	5.44
1968	173	152.98	1144.00	198,923	0.76	0.72
1969	361	307.00	281.56	200,887	1.52	1.40
1970	405	330.39	297.46	203,235	1.62	1.46
				Average	4.11	3.96

The 1973 Act

By 1973 the demand for American farm products was at a high level due to world crop shortages and world wide inflation. Strong demand and tight supplies, particular for some of the medium and longer staple, highlighted the 1973 cotton situation. The 1973 Act put cotton in a more market oriented environment. World demand combined with export subsidies and devaluation of the dollar had liquidated the stocks which had been built up under previous price support programs. This act placed its emphasis on production to ever growing world wide demand for cotton fiber. The fundamental difference was its emphasis on maintaining or increasing production in contrast to earlier programs to curtail production of upland cotton.

Major provisions [8] of the program for the 1974-75 cotton crop year were:

* A guaranteed target price of 38 cents/lb. This price was in effect for the 1974 and 1975 crops. For the 1976 and 1977 crops the target price would be adjusted to reflect changes in production costs.

* A national production goal of 14.8 million bales.

* No cropland set aside or conserving base requirements as conditions of eligibility in program participation.

* A $20,000 payment limitation per producer of cotton, reduced from the former limit of $55,000.

* Annual federal authorizations of $10 million for cotton research being conducted by Cotton Incorporated.

Dollar values for net per capita costs and benefits were calculated as shown in Table V & VI.

Table V. Calculations for Benefits, 1973 Act

Year	U.S. per Capita Cotton Consumption lbs.	Average Market Price of Cotton cents/lb.	Net per Capita Benefits $s
1974	16.10	41.69	6.71
1975	15.40	48.00	7.40
		Average	7.05

Table VI. Calculations for Costs, 1973 Act

Year	Value of CCC Inventories, Price Support, Loans and R&D. (Million Dollars)	Discounted Dollars Cost to Government (Million Dollars)		Population (Thousands)	Net per Capita Costs $	
		Discount Rate 8%	10%		Discount Rate 8%	10%
1974	44	40.48	39.60	211,016	0.19	0.18
1975	153	129.49	123.93	212,634	0.61	0.58
				Average	0.40	0.38

CHAPTER V

RESULTS AND DISCUSSION

The ratio of benefits to the consumer and costs to government reflect the effectiveness of the regulation. The Benefit-Cost ratios for the three acts discussed are shown in Table VII.

The circumstances leading to the enactment of the 1964 Act intended to make cotton more competitive with man made fibers, decrease imports of cotton textiles, increase exports of cotton and to stabilize the market situation so that the textile industry could plan more effectively.

The one price cotton system brought the average price of cotton under control. The per capita consumption increased but the mechanism by which the price support system worked involved higher federal expenditure. The benefit - cost (B-C) ratio reflects the users equivalent dollar benefit and the sponsors equivalent dollar cost. The B-C ratio of 0.76 for the 1964 Act implies that the act provided 76% social benefits to the consumers in the years it was effective.

This benefit-cost ratio does not fully justify the implementation of the 1964 Act. But because of the complexity of the system and nonavailability of actual dollar values for certain effects, it would not be wrong to say that the act was a step in the right direction and that subsequent modifications could lead to better results.

The 1965 Act did not change the effect of the one price cotton,

Table VII. Benefit-Cost Ratios for 1964, 1965 and 1973 Acts

Act Year	Discount Rate %	Benefits %	Costs %	B-C Ratio
1964 Act	2	7.08	9.27	0.76
(Effective 1964 to 1965)	3	7.08	9.12	0.77
1965 Act (Effective 1966 to	4	5.18	4.11	1.26
1970)	6	5.18	3.96	1.30
1973 Act (Effective 1974 to	8	7.05	0.40	17.62
1975)	10	7.05	0.38	18.55

but it did modify and revise the mechanism by which it, as well as the farm price support system worked. Government's decision to reduce its inventories and modify the payment system brought about a drastic reduction in the federal expenditure. Consumption of cotton was normal. Average market prices were lower than in the previous years. The benefits and costs were nearly equal indicating that the federal costs were close to the potential benefits derived by the consumer during the 1966 - 1970 period. The benefit-cost ratio does indicate the minimum justification for the expenditure incurred at that time in stimulating the entire textile industry coupled with other economic factors to meet the challenge of man-made fibers.

The 1973 Act is better understood when related to the prevailing world situation at that time: The U.S. dollar was devalued; price freezes and price controls were in effect; high inflation; high production costs; oil and energy crises; and shortages of certain goods and commodities. The erosion of consumer buying power was due to the rapid inflation. The purchasing power of the dollar had gone down and the average market price for cotton was up. The consumption was at a new low level, but due to higher prices the dollar value of consumption was high. Government expenses were low due to reduced stocks and revised mechanism for making payments.

The 1973 Act provided the Cotton industry with plenty of maneuvering room and much needed encouragement to meet the challenge of producing an adequate supply so as to meet and satisfy the consumer demand.

Effects of this regulation will be realized in the coming years as the economic situation stabilizes. Consumers have tended to change

their consumption methods and the cotton industry is gearing up to meet the new demands. It would not be improper to say in this study that the federal government did take the best possible measures under the prevailing situation in passing this regulation.

CHAPTER VI

CONCLUSION

The results presented in this study are designed to illustrate the effectiveness of federal regulation on cotton production and consumption. Balancing of production to demand has been the basis for all regulations. The federal government has been significantly involved in stabilizing cotton prices in the recent years. Federal programs have been modified to meet varying conditions of depression, inflation and keen competition from man-made fibers.

The 1964 Act and 1965 Act, have been prominant in the last decade enabling cotton and the cotton textile industry to meet the consumer demand. These acts have been effective to an extent in adjusting cotton production to demand. Controlled production, in the 60's, has been successful in keeping cotton prices stable and the consumer's reaction to consumption has been quite favorable. The Benefit-Cost ratio for these two acts reflects the effectiveness of the regulation. The 1964 Act better known as the one price act amounted to more government costs than the potential benefits derived by the consumer. The 1965 Act which was a modification of the 1964 Act did not change the effect of one price act but revised the mechanism by which it as well as the farm price support system worked. The ratio provides the minimum justification for implementing this program. Research programs under these acts have benefited the producer by increasing his output and quality

and the consumer has benefited by getting quality products at reasonable prices.

The 1973 Act's emphasis on increasing production to meet the consumer demand reflects governments intentions of adjusting to the prevailing situation and keeping cotton as a profitable enterprise.

APPENDIX

Table 1. Cotton Production, Use and Carryover, 1960-75[12]

Year Beginning August 1	Production	Consumption	Exports	Carryover
	Million Bales	Million Bales	Million Bales	Million Bales
1960	14.3	8.3	6.9	7.2
1961	14.3	9.0	5.1	7.8
1962	14.8	8.5	3.4	11.1
1963	15.3	8.7	5.8	12.4
1964	15.1	9.3	4.2	14.2
1965	14.9	9.6	3.0	17.0
1966	9.6	9.6	4.8	12.3
1967	7.4	9.1	4.4	6.6
1968	10.9	8.3	2.8	6.5
1969	10.0	8.1	2.9	5.8
1970	10.2	8.2	3.9	4.2
1971	10.5	8.3	3.4	3.3
1972	13.7	7.8	5.3	4.2
1973	13.0	7.5	6.1	3.8
1974	11.5	5.9	3.9	5.8
1975	9.4	6.8	4.0	4.6

Source: USDA

Table 2. Value of CCC Price Support Inventories and Loans, June 30, 1964-75[12]

Year	Feed Grains	Wheat and Products	Cotton	Other		Total
				Dairy Products	All Other Commodities	
	Million Dollars	Million Dollars	Million Dollars	Million Dollars	Million Dollars	Million Dollars
1964	2,489	1,798	1,751	174	886	7,098
1965	1,976	1,433	1,898	137	943	6,387
1966	1,383	792	2,228	2	907	5,312
1967	768	291	1,204	139	960	3,362
1968	1,129	447	163	212	1,230	3,181
1969	1,459	808	351	169	1,791	4,578
1970	1,467	982	395	133	1,669	4,646
1971	942	735	80	172	1,129	3,058
1972	1,491	926	29	131	791	3,367
1973	766	272	26	65	493	1,623
1974	184	37	34	25	284	563
1975	65	5	143	290	247	750

Source: USDA

Table 1. Cotton Production, Use and Carryover, 1960-75[12]

Year Beginning August 1	Production	Consumption	Exports	Carryover
	Million Bales	Million Bales	Million Bales	Million Bales
1960	14.3	8.3	6.9	7.2
1961	14.3	9.0	5.1	7.8
1962	14.8	8.5	3.4	11.1
1963	15.3	8.7	5.8	12.4
1964	15.1	9.3	4.2	14.2
1965	14.9	9.6	3.0	17.0
1966	9.6	9.6	4.8	12.3
1967	7.4	9.1	4.4	6.6
1968	10.9	8.3	2.8	6.5
1969	10.0	8.1	2.9	5.8
1970	10.2	8.2	3.9	4.2
1971	10.5	8.3	3.4	3.3
1972	13.7	7.8	5.3	4.2
1973	13.0	7.5	6.1	3.8
1974	11.5	5.9	3.9	5.8
1975	9.4	6.8	4.0	4.6

Source: USDA

Table 3. U.S. Total and Farm Population, 1960-75[12]

Year	Total Resident Population	Farm Population	
		Number	Share of Total Population
	Thousands	Thousands	Thousands
1960	179,323	15,635	8.7
1961	182,298	14,803	8.1
1962	185,104	14,313	7.7
1963	187,837	13,367	7.1
1964	190,507	12,954	6.8
1965	192,983	12,363	6.4
1966	195,045	11,595	5.9
1967	196,976	10,875	5.5
1968	198,923	10,454	5.3
1969	200,887	10,307	5.1
1970	203,235	9,712	4.8
1971	204,677	9,425	4.6
1972	207,802	9,610	4.6
1973	209,468	9,472	4.5
1974	211,018	9,264	4.4
1975	212,634	8,900	4.2

Source: USDA

Table 4. U.S. Cotton Acreage, Yield, Production, Consumption, Exports Carryover and Prices (1962 to 1976)

Year beginning Aug. 1	Yield per acre	Production 480 lb. net bales	Production Running bales	Consumption Running bales	Net exports Running bales	Carryover Running bales	Prices Farm	Prices Designated markets 1/	Loan rates average location 1/
	Pounds	1,000 bales	1,000 bales	1,000 bales	1,000 bales	1,000 bales	Cents	Cents	Cents
1962	457	14,828	14,864	8,419	3,351	7,831	31.90	33.52	32.47
1963	517	15,294	15,290	8,609	5,662	11,216	32.18	33.18	32.47
1964	517	15,144	15,149	9,171	4,060	12,378	29.76	30.73	30.00
1965	527	14,941	14,933	9,497	2,942	14,291	28.14	29.60	29.00
1966	480	9,556	9,562	9,485	4,669	16,862	20.84	22.08	21.20
1967	447	7,444	7,439	8,982	4,206	12,533	25.59	24.83	20.55
1968	516	10,925	10,917	8,242	2,731	6,448	22.15	22.90	20.60
1969	434	9,990	9,937	7,991	2,768	6,521	21.09	22.15	20.70
1970	438	10,192	10,112	8,068	3,737	5,760	22.93	23.55	20.70
1971	438	10,477	10,229	8,039	3,229	4,252	28.23	31.52	19.50 3/
1972	507	13,704	13,269	7,470	5,000	3,234	27.30	33.14	19.50 3/
1973	520	12,974	12,611	7,172	5,746	3,929	44.60	67.10	20.65 3/
1974	441	11,537	11,328	5,629	3,746	3,743	43.00	41.69	27.06 3/
1975 2/	453	8,296	8,151	*	*	5,481	43.00	48.00	36.12 3/
1976 2/	*	*	*	*	*	*	*	*	38.92 3/

1/ 1973-1976 crops, basis grade 41, staple 34, 3.5-4.9 mike; 1966-1972 crops, basis grade 31, staple, 32, 3.5-4.9 mike; 1965 and earlier crops, basis grade 31, staple 32.
2/ Preliminary.
3/ Net weight basis.
* Not available.

Source: Weekly Cotton Market Review, Vol. 57, No. 48, July 2, 1976, USDA.

Table 5. U.S. Domestic Consumption of Fibers Per Capita, 1960-74[12]

Year	Cotton		Wool		Manmade		Total per capita
	Per capita	Percentage of total	Per capita	Percentage of total	Per capita	Percentage of total	
	Pounds	Percent	Pounds	Percent	Pounds	Percent	Pounds
1960	23.5	64.4	3.0	8.2	10.0	27.5	36.6
1961	22.2	61.7	2.9	8.1	10.8	30.2	35.9
1962	23.2	59.6	3.1	7.9	12.6	32.5	38.8
1963	22.0	56.1	2.9	7.5	14.3	36.4	39.4
1964	22.8	54.9	2.6	6.2	16.2	39.0	41.5
1965	24.2	53.5	2.7	6.0	18.3	40.5	45.3
1966	25.4	52.7	2.6	5.3	20.2	41.9	48.2
1967	23.8	50.3	2.2	4.5	21.4	45.2	47.3
1968	22.2	43.4	2.3	4.5	26.8	52.1	51.4
1969	20.9	41.0	2.1	4.2	27.9	54.9	50.9
1970	20.1	40.6	1.7	3.4	27.7	56.0	49.5
1971	20.5	37.4	1.3	2.4	33.0	60.2	54.9
1972	20.4	34.4	1.3	2.3	37.7	63.4	59.5
1973	18.5	30.1	1.0	1.6	42.0	68.3	61.5
1974	16.1	30.5	7	1.3	36.2	68.3	53.0

Source: USDA

Table 6. Consumer Price Index, 1964-75[12]

(1967=100)

Year	All items	Food			Housing	Apparel and upkeep	Medical care	Transportation
		All	At home	Away from home				
1964	92.6	92.4	93.2	88.9	93.8	92.7	87.3	94.3
1965	94.5	94.4	95.5	90.9	94.9	93.7	89.5	95.9
1966	97.2	99.1	100.3	95.1	97.2	96.1	93.4	97.2
1967	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1968	104.2	103.6	103.2	105.2	104.2	105.4	106.1	103.2
1969	109.8	108.9	108.2	111.6	110.8	111.5	113.4	107.2
1970	116.3	114.9	113.7	119.9	118.9	116.1	120.6	112.7
1971	121.3	118.4	116.4	126.1	124.3	119.8	128.4	118.6
1972	125.3	123.5	121.6	131.1	129.2	122.3	132.5	120.0
1973	133.1	141.4	141.4	141.4	135.0	126.8	137.7	123.8
1974	143.5	158.2	159.1	154.9	145.6	132.6	145.4	133.7
1975	158.3	171.9	172.0	171.5	164.0	140.8	164.9	145.8

Source: USDA

Table 7. Yearly Increase in Consumer Price Index

Year	CPI	Increase	%
1963	92.5		
1964	92.9	0.4	0.4
1965	94.5	1.7	1.8
1966	97.2	2.7	2.8
1967	100	2.8	2.9
1968	104.2	4.2	4.2
1969	109.8	5.6	5.3
1970	116.8	7.0	6.3
1971	121.3	4.5	3.8
1972	125.3	4.0	3.2
1973	133.1	7.8	6.2
1974	147.7	14.6	10.9
1975	158.3	10.6	7.1

Table 8. World Cotton Production and Consumption, 1964-74[12]

Year beginning August 1	Production					Consumption				
	United States	Foreign non-Communist		Communist	Total world	United States	Foreign non-Comunist		Communist	Total World
		Net importing	Net exporting				Net importing	Net exporting		
	Million bales	Million bales	Million bales	Million bales	Million bales	Million bales	Million bales	Million bales	Million bales	Million bales
1964	15.2	5.8	17.1	15.2	53.3	9.2	18.7	6.2	16.7	50.8
1965	15.0	5.9	17.7	16.4	55.0	9.5	18.6	6.3	18.1	52.5
1966	9.9	5.5	17.3	17.9	50.6	9.5	18.6	6.9	19.3	54.3
1967	7.2	6.2	17.8	18.3	49.5	9.0	18.5	7.2	19.0	53.7
1968	11.1	6.0	20.2	17.5	54.8	8.2	19.0	7.6	19.5	54.3
1969	10.1	5.8	20.3	17.0	53.2	8.0	19.0	8.2	19.8	55.0
1970	10.5	5.1	18.3	19.9	53.8	8.1	19.1	8.4	20.6	56.2
1971	10.5	6.8	21.4	20.6	59.3	8.2	19.5	8.7	21.4	57.8
1972	13.8	6.4	21.9	19.5	61.6	7.8	19.8	9.8	22.0	59.4
1973	13.3	6.5	20.9	21.8	62.5	7.5	20.8	10.2	22.8	61.3
1974	11.5	6.8	21.7	22.9	62.9	5.8	19.0	9.8	23.5	58.1

Source: USDA

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